

**UNITED STATES DISTRICT COURT  
DISTRICT OF MINNESOTA**

Dane Technologies, Inc.,

Plaintiff,

v.

Gatekeeper Systems, Inc.,

Defendant.

**MEMORANDUM OPINION  
AND ORDER**

Civil No. 12-2730 ADM/JJK

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Nicholas M. Zovko, Esq., Michael K. Friedland, Esq., and Benjamin A. Katzenellenbogen, Esq., Knobbe, Martens, Olson & Bear, LLP, Irvine, CA; David R. Fairbairn, Esq., Catherine A. Shultz, Esq., and Katherine J. Rahlin, Esq., Kinney & Lange, P.A., Minneapolis, MN, on behalf of Defendant.

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**I. INTRODUCTION**

On March 26, 2014, a claim construction hearing was held before the undersigned United States District Judge in a patent infringement action brought by Plaintiff Dane Technologies, Inc. (“Dane”) against Defendant Gatekeeper Systems, Inc. (“Gatekeeper”).<sup>1</sup> Dane alleges Gatekeeper infringes claims of United States Patent Nos. 6,220,379 (the “379 Patent”), 7,389,836 (the “836 Patent”), and 7,493,979 (the “979 Patent”).

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<sup>1</sup> On April 2, 2014, Dane moved to alter, amend, and supplement pleadings and infringement contentions. Gatekeeper requested that it be permitted to alter its invalidity contentions. At the time, it was unclear whether the parties’ amendments would effect the contentions at issue here. On May 12, 2014, the parties argued their motions before Magistrate Judge Jeffrey J. Keyes, and on May 27, 2014, Judge Keyes granted the parties’ motions. The parties agreed to a briefing schedule for a supplemental claim construction hearing in September 2014, but it does not appear that the new claim construction terms will overlap with the claims argued herein. Therefore, the Court now construes the claims before it.

## II. BACKGROUND

Dane is a Minnesota corporation, with its principal place of business in Brooklyn Park, Minnesota. Compl. [Docket No. 1] ¶ 1. Dane owns by assignment the three patents at issue in this case. On April 24, 2001, the United States Patent and Trademark Office (“PTO”) issued the ’379 Patent, entitled “Cart Retriever Vehicle.” Id. ¶ 7. On June 24, 2008, the PTO issued the ’836 Patent, entitled “Power-assisted cart retriever with attenuated power output.” Id. ¶ 8. On February 24, 2009, the PTO issued the ’979 Patent, also entitled “Power-assisted cart retriever with attenuated power output.” Id. ¶ 9. In basic terms, these Patents cover “shopping cart retrievers with motor controllers that have features designed to protect the motor.” Id. ¶ 11. The ’379 Patent describes the prior art invention upon which the inventors were trying to improve. See ’379 Patent 1:15-56. A prior art vehicle “involves using a motorized device for pulling a column of shopping carts through the parking lot in a train-like fashion.” Id. at 1:31-33. A rope is attached from the motorized device and strung through all the carts. Each time a cart is added to the column, the operator unhooks the rope and then hooks in the new carts. See id.

The ’379 Patent described its primary objectives as providing a motorized apparatus with a remote control and manual mode that would more easily steer, maintain a consistent speed, handle a greater number of carts at one time, decrease the amount of manual manipulation of the carts, and automatically regulate the top output revolutions per minute (rpm) of the drive motor. Id. at 2:46-3:14. The ’836 Patent and the ’979 Patent describe efforts to regulate the power provided to the drive motor to prevent overloaded conditions. ’836 Patent 2:27-34; ’979 Patent 2:28-34.

On October 25, 2012, Dane filed this action against Gatekeeper, asserting infringement of

its named patents. On May 23 and June 7, 2013, Gatekeeper filed requests with the PTO for inter partes review of the '836 Patent and the '979 Patent, respectively. The PTO's Patent Trial and Appeal Board ("PTAB") decided not to institute an inter partes review. See Paul J. Robbennolt Decl. [Docket No. 91] Exs. 6 ("836 Patent Decision") and 7 ("979 Patent Decision"). A PTAB Administrative Judge panel determined Gatekeeper's petition did not establish "a reasonable likelihood that Gatekeeper would prevail with regard to any one of its unpatentability contentions as applied to claims 1-12 of the '836 Patent." '836 Patent Decision, at \*17. Similarly, Gatekeeper did not establish a reasonable likelihood it would prevail in showing the unpatentability of claims 1-21 of the '979 Patent. '979 Patent Decision, at \*19.

As part of its review of Gatekeeper's petitions, the PTAB related that Gatekeeper and Dane "have no apparent dispute as to the meaning of any claim term" and the patentee did not attempt to be his own lexicographer, or give any special meaning, for any term. '836 Patent Decision, at \*7; '979 Patent Decision, at \*8. The PTAB decided no terms for the '836 Patent needed construction, and only the first and second means-plus-function elements of claim 18 of the '979 Patent needed to be construed. Id.

Claim 1 of the '379 Patent, recites as follows:

1. A vehicle for moving shopping carts, comprising:
  - (a) a chassis supported by at least two wheels;
  - (b) a shopping cart coupler mounted to the chassis releasably attaching at least one shopping cart or a shopping cart train;
  - (c) an electric motor supported by said chassis powering said vehicle in response to a drive signal;
  - (d) a control panel having a mode selector selecting between a plurality of operational modes, including a manual mode and a remote mode;

- (e) at least one remote control device generating and transmitting an operator signal to operate the vehicle in the remote mode, the operator signal including a target speed value;
- (f) a manual control device generating and transmitting an operator signal and a stop signal to operate the vehicle in the manual mode;
- (g) a receiver on the vehicle communicating with the remote control device to operate the vehicle in the remote mode;
- (h) a controller on the vehicle controlling vehicle movement in response to the operator signal, said controller comprising:
  - i. a signal receiver connected to the receiver, the signal receiver receiving the operator signal;
  - ii. a motor switching circuit generating a motor interface signal in response to the operator signal;
  - iii. a motor interface circuit receiving the motor interface signal from the motor switching circuit and generating a drive signal to power the motor;
  - iv. a speed sensing circuit generating a present speed signal; and
  - v. a speed regulating circuit coupled to the motor interface circuit, wherein the speed regulating circuit is operative to modify the drive signals in response to changes in the present speed signal such that the present speed signal approaches one of the at least one target speed, whereby the speed of the vehicle tends to be maintained substantially constant during the attachment and release of the one or more shopping carts or shopping cart trains coupled to the vehicle
- (i) a brake controller operative to drive the electric motor in an opposite direction in response to the stop signal.

'379 Patent 13:14-58. Claim 2 consists of "the vehicle of claim 1, wherein the remote control device communicates with the signal receiver of the controller using a pulse code modulation system." Id. 13:59-61.

The Parties agree upon the constructions of several terms in the '379 Patent:

1. “a controller on the vehicle controlling vehicle movement in response to the operator signal” means “at least one mechanism or device located on the vehicle to control the vehicle’s movement in response to the operator signal.”
2. “a signal receiver connected to the receiver, the signal receiver receiving the operator signal” means “an electrical circuit connected to or within the controller that receives the operator signal.”
3. “a speed sensing circuit generating a present speed signal” means “an electrical circuit connected to or within the controller that monitors the speed of the vehicle and generates a signal that corresponds to the speed of the vehicle.”
4. “a brake controller operative to drive the electric motor in an opposite direction in response to the stop signal” means “an electrical device or mechanism that in response to the stop signal brakes the motor by creating rotational force on the motor in the direction opposite its rotation.”
5. “a motor switching circuit generating a motor interface signal in response to the operator signal” means “an electrical circuit attached to or within the controller that generates a motor interface signal in response to the operator signal. The motor interface signal is based on a target speed value contained in the operator signal.”
6. “a motor interface circuit receiving the motor interface signal from the motor switching circuit and generating a drive signal to power the motor” means “an electrical circuit connected to or within the controller that interconnects the motor switching circuit and the motor. The drive signal is a signal based on the target speed value that provides electrical power to the motor.”
7. “a speed regulating circuit coupled to the motor interface circuit, wherein the speed regulating circuit is operative to modify the drive signals in response to changes in the present speed signal such that the present speed signal approaches one of the at least one target speed, whereby the speed of the vehicle tends to be maintained substantially constant during the attachment and release of the one or more shopping carts or shopping cart trains coupled to the vehicle” means “an electrical circuit within the controller that is electrically connected to the motor interface circuit. The speed regulating circuit causes the drive signal to change based on the target speed value and the present speed signal such that the present speed signal will be close to or equal to the target speed value. The changing of the drive signal by the speed regulating circuit causes the speed of the vehicle to be maintained substantially constant during the attachment and release of one or more shopping carts or shopping cart trains coupled to the vehicle.”

’379 Patent Claims 1-7, 14-15, 27; see Am. Joint Claim Constr. Stmt. [Docket No. 93], Am. Ex.

A, at 1-3.

The terms presently in dispute are “control panel” and “pulse code modulation” in claims 1, 2, 17, 21, and 27 of the ’379 Patent. Am. Joint Claim Constr. Stmt., Am. Ex. A, at 4-5,

11; Resp. Claim Const. Br. [Docket No. 100], App. A, at 1-8.

Claims 1 and 2 of the '836 Patent recite:

1. A shopping cart retriever comprising:  
an electric motor;  
a drive system powered by the electric motor;  
a controller that controls power to the electric motor and includes a first power limit and a second power limit; and  
a throttle control in communication with the controller, wherein the first power limit is the controller's normal power limit that results when the controller self-limits its maximum power output through a sensing feature of the controller that exists to prevent damage to the controller,  
wherein the second power limit is selectable and limits the controller's maximum power output to a level that is less than that of the first power limit, and  
wherein the sensing feature is a temperature sensing feature that senses a temperature of the controller.
2. The retriever of claim 1, wherein the second power limit is selected to provide a power output level that optimizes the operational life of a component of the retriever or of a shopping cart.

'836 Patent 8:22-39.

Claim 1 and 2 of the '979 Patent has slightly different language. They recite:

1. A shopping cart retriever comprising:  
an electric motor;  
a drive system powered by the electric motor;  
a controller adapted to provide power to the electric motor and including a first power limit, a second power limit, and a burst mode; and  
a throttle control in communication with the controller,  
wherein the first power limit is the controller's normal power limit that results when the controller self-limits its maximum power output through a sensing feature of the controller that exists to prevent damage to the controller,  
wherein the second power limit is selectable and limits the controller's maximum power output to a level that is less than that of the first power limit, and  
wherein the burst mode allows the control's maximum power output to exceed the second power limit for a limited time before again becoming subject to the second power limit.
2. The retriever of claim 1, wherein the second power limit is selected to provide a power output level that optimizes the operational life of a component of the retriever or of a shopping cart.

'979 Patent 8:19-41.

The terms that are presently in dispute in claims 1 and 2 of the '836 Patent, and in claims 1, 2, 14, 15, 18, and 21 of the '979 Patent, are “first power limit,” “second power limit,” and “optimizes.” Am. Joint Claim Constr. Stmt., Am. Ex. A, at 6; Resp. Claim Const. Br., App. A, at 9-12. The means plus function disputes all arise in claims 18 and 21 of the '979 Patent. They consist of: “controlling means for controlling power to the electric motor,” “first power-limiting means for limiting power to the electric motor,” “second power-limiting means for limiting power to the electric motor,” “burst means for overriding the second power-limiting means,” and “third power-limiting means for limiting the power to the electric motor.” Am. Joint Claim Constr. Stmt., Am. Ex. A, at 7-10; Resp. Claim Const. Br., App. A, at 13-15.

### III. DISCUSSION

#### A. Standard of Review

Claim construction is a matter of law. Markman v. Westview Instruments, Inc., 52 F.3d 967, 979 (Fed. Cir. 1995), aff'd, 517 U.S. 370 (1996). In construing claims, courts should look first to intrinsic evidence, which includes the claims, the specification, and the prosecution history. Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996). Claim terms are “generally given their ordinary and customary meaning,” which is “the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application.” Phillips v. AWH Corp., 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (quotation and citations omitted). However, a patentee can choose to be “his or her own lexicographer by clearly setting forth an explicit definition for a claim term.” Johnson Worldwide Assocs., Inc. v. Zebco Corp., 175 F.3d 985, 989 (Fed. Cir.

1999). Claim terms “should be construed consistently with [their] appearance in other places in the same claim or other claims of the same patent.” Rexnord Corp. v. Laitram Corp., 274 F.3d 1336, 1342 (Fed. Cir. 2001). In addition, the specification is usually “dispositive; it is the single best guide to the meaning of a disputed term.” Vitrionics, 90 F.3d at 1582. Courts are nonetheless cautioned not to import limitations from the specification into the claims. Phillips, 415 F.3d at 1323; Laitram Corp. v. NEC Corp., 163 F.3d 1342, 1347 (Fed. Cir. 1998).

While courts can consider extrinsic evidence to educate themselves about the patent and technology at issue, it is improper to rely on extrinsic evidence in construing claims unless, after consideration of all the intrinsic evidence, ambiguity remains. Mantech Envtl. Corp. v. Hudson Envtl. Servs., Inc., 152 F.3d 1368, 1373 (Fed. Cir. 1998); Vitrionics, 90 F.3d at 1584. Extrinsic evidence is “evidence which is external to the patent and file history, such as expert testimony, inventor testimony, dictionaries, and technical treatises and articles.” Vitrionics, 90 F.3d at 1584. Dictionaries may be useful to courts in understanding the ordinary and customary meaning of words, and courts may “rely on dictionary definitions when construing claim terms, so long as the dictionary definition does not contradict any definition found in or ascertained by a reading of the patent documents.” Phillips, 415 F.3d at 1322-23.

## **B. Claim Construction**

### **1. “Control Panel” in Claims 1, 17, and 27 of the ’379 Patent**

Dane submits that the term “control panel” does not need to be construed. Gatekeeper argues that “control panel” is “a component having controls for operating the vehicle that is separate from the remote control.” This dispute lies not so much in the definition of “control panel” but rather in how to interpret the claims’ use of “remote control” in relation to “control



panel.” Gatekeeper argues the patent specifications describe the control panel and remote control as separate and distinct structures. The Court, in making this determination, relies primarily on the claim language itself:

1. A vehicle for moving shopping carts, comprising: . . .

(d) a control panel having a mode selector selecting between a plurality of operational modes, including a manual mode and a remote mode;

(e) at least one remote control device generating and transmitting an operator signal including a target speed value;

’379 Patent 13:21-28. The claims require at least one remote control, that is, a device capable of controlling the motorized cart retriever without being in physical contact with it. This is confirmed by the patent’s primary objectives, one of which is to permit operation of the vehicle from either end of a train of shopping carts. *Id.* 2:45-51. Being able to operate the motorized vehicle from either end of the shopping cart train is essential to the invention. The invention proposes the use of a remote control as the means to accomplish this goal. What is not required, according to the plain language, is a separate structure, a control panel attached to the motorized vehicle. Nothing about the specifications prevents a remote control from acting as the control panel in manual mode. Therefore, the patent and its specifications require a remote control, but do not require a separate structure of a manual control panel. “Control panel” will not be construed by the Court and will be understood in accordance with its ordinary and customary meaning.

## **2. “Pulse Code Modulation” in Claims 2 and 21 of the ’379 Patent**

The remote control communicates with the cart retriever via pulse code modulation,

which the parties agree should be defined as “modulation of a radio wave or signal in which the information is conveyed by an order of pulses of the wave or signal that are transmitted at multiples of a standard time interval.” Dane submits this definition is sufficient. Gatekeeper submits that the clarity of the definition will be enhanced if it includes a list of transmittal techniques that are not contemplated by pulse code modulation. Specifically, Gatekeeper submits the Court should add to the end of the agreed definition, “other than by pulse amplitude modulation, phase shift keying, frequency shift keying, spread spectrum, frequency modulation, or amplitude modulation.” Gatekeeper argues the specification narrows the definition of “pulse code modulation” by describing alternatives to it, namely those methods listed above that it seeks to exclude. Resp. Claim Const. Br. 23 (citing ’379 Patent 8:1-5). Gatekeeper does not explain what makes these alternatives distinct, or how the definition of pulse code modulation is affected or narrowed by these alternatives. Therefore, since the expanded definition by exclusion does not clarify the definition of pulse code modulation, it will not be helpful to the jury. The jury should be focused on what pulse code modulation is and whether the accused product uses pulse code modulation. To prove infringement, Dane will need to prove that Gatekeeper’s device uses pulse code modulation; Dane will not need to prove the negative. Therefore, since the parties agree as to the basic definition of “pulse code modulation,” the Court will adopt it, construing “pulse code modulation” as “modulation of a radio wave or signal in which the information is conveyed by an order of pulses of the wave or signal that are transmitted at multiples of a standard time interval.”

### **3. “First Power Limit” and “Second Power Limit” in Claim 1 of the ’836 Patent and Claims 1 and 14 of the ’979 Patent**

Dane argues that “first power limit” and “second power limit” in claim 1 of the ’836 Patent and Claims 1 and 14 of the ’979 Patent do not require construction and should be given their ordinary meaning. See ’836 Patent 8:25-34; ’979 Patent 8:24-33. Gatekeeper initially did not propose a construction for “first power limit” or “second power limit,” but in response to the PTAB’s denial of its request for inter partes review, Gatekeeper argues that the prosecution history now shows that the first power limit and second power limit should be more narrowly construed than the terms’ ordinary meaning. Statements made during prosecution may influence a court’s construction under the doctrine of prosecution disclaimer. Prosecution disclaimer requires a “clear and unmistakable” disavowal. Omega Eng’g, Inc. v. Raytek Corp., 334 F.3d 1314, 1326 (Fed. Cir. 2003). Gatekeeper’s submission to the PTAB included power limiting controllers which it argued made Dane’s patents invalid. Gatekeeper argues that in the process of defending its patents, Dane distinguished the prior art controllers from the first power limit and second power limit in the ’836 and ’979 Patents.<sup>2</sup> In this way, Gatekeeper argues, Dane narrowed the scope of its patents.<sup>3</sup> Based on Dane’s representations before the PTAB and on the

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<sup>2</sup> The prior art addressed by the PTAB were U.S. Patent 4,423,362, referred to as “Konrad,” and manuals for Curtis PMC controllers 1237 and 1297. Other prior art offerings were mentioned, but were rejected for the same reasons as the Konrad and Curtis manuals.

<sup>3</sup> The PTAB construes terms consistent with the specification, and “the claim language should be read in light of the specification as it would be interpreted by one of ordinary skill in the art.” ’836 Patent Decision, at \*6 (citing In re Suitco Surface, Inc., 603 F. 3d 1255, 1260 (Fed. Cir. 2010)). However, the parties did not request the PTAB construe any terms for either patent, and the PTAB found that only the first and second means-plus-function elements recited in claim 18 of the ’979 Patent needed to be construed. The Parties’ failure to request construction makes the applicability of the PTAB’s denial of petition of limited value.

PTAB's rulings, Gatekeeper proposes that "first power limit" means "the first power limit changes the power output, at least slightly, in response to any change in a sensed condition" and the "second power limit" means "the second power limit is a power limit that is distinct from the first power limit and co-existing with the first power limit; and, a single adjustable power limit cannot serve as both the first and second power limits."

The "first power limit" and "second power limit" elements will be given their plain and ordinary meaning. Each of the power limit elements is clear, unambiguous, and can be easily understood by a jury. In addition, the record here does not show the clear disavowal of claim scope which is required before considering narrower proposed constructions. The record does not reflect that the "first power limit changes the power output, at least slightly, in response to any change in a sensed condition." Instead, the record reflects that although the first power limit can be programmed to change in this way, there are also a range of other options. '836 Patent Decision 11-12; '979 Patent Decision 17. For example, the first power limit could be programmed to change over range "steps" of 5-15 degrees, seeing a decrease in power for each stepped increase of sensed temperature. The PTAB did not find that the difference between the patent at issue and the Curtis 1237 controller was the difference between continuous change and adjustable change. The problem highlighted by the PTAB was that Gatekeeper's expert had not shown how adjusting the first power limit, or main current limit, satisfied the second power limit. '836 Patent Decision 10. Essentially, the PTAB found that the Curtis 1237 controller did not have a second power limit. Therefore, the Court will not adopt the narrower "first power limit" construction proposed by Gatekeeper. As for the second power limit, the second power limit is clearly distinct from the first power limit, but this fact is self-evident from the language

of the claims, since the power limits are denoted as first and second. Gatekeeper's proposed construction is unnecessarily confusing by insisting that the power limits are distinct and co-exist. Adopting a construction that simply repeats the claim terms is redundant and unnecessary. 3M Innovative Prop. Co. v. Envisionware, Inc., No. 9-1594, 2010 WL 5067449, at \*2 (D. Minn. Dec. 6, 2010) ("where the meaning of a word is readily understood without the need for clarification or explanation, no claim construction is necessary").

#### **4. "Optimizes" in Claim 2 of the '836 Patent and Claims 2 and 15 of the '979 Patent**

Dane submits that the term "optimizes the operational life of a component of the retriever or of a shopping cart," as used in Claim 2 of the '836 Patent and Claims 2 and 15 of the '979 Patent, means "extends the operational life of a component of the retriever or of a shopping cart through an engineering choice." Gatekeeper submits that the term needs no construction, and should have its plain and ordinary meaning. Gatekeeper argues the "asserted claim 2 of '836 Patent and claims 2 and 15 of the '979 Patent recite a requirement that the features of the controller 'optimizes the operation life of a component of the retriever or of a shopping cart.'" Gatekeeper contends, citing part of a dictionary definition for "optimize," the term's plain and ordinary meaning would define the term as "to make as perfect, effective, or functional as possible the operational life of a component of the retriever or of a shopping cart."

Although Gatekeeper casts its arguments as seeking the plain and ordinary meaning of "optimize," it is actually attempting to import a limitation on the patent that is not present. Gatekeeper argues "optimize" should mean "to make as perfect as possible," such that the operational life of the retriever invention is required to make the invention as perfect as possible. Presumably, if "optimize" means "as close to perfection as possible," Gatekeeper could argue no

accused device is covered by the patents. A construction incorporating “perfection” is unworkable for a fact finder. Although the inventors may have a grandiose belief that the invention was perfect, the patent makes clear that the use of the word “optimize” was an aspiration, not a declaration of accomplishment.

The specification in the ’836 Patent relates that the electrical motor can provide power to the drive system at a level that promotes longer component life . . . .” ’836 Patent 7:4-5. Furthermore, the specification allows that “[c]omponent tests may be conducted and/or component specifications may be reviewed to determine the power level that is appropriate to optimize retriever [] and cart component life.” Id. 7:14-18. Viewed in context, the inventors intended users of the invention to utilize the adjustability of the power limits to test the components in relation to the conditions under which they are used, experimenting to find the appropriate power given the number of carts collected, weather conditions, age of the motor, etc.<sup>4</sup> In this context, “optimize” clearly means “to promote or extend the operational life of a component or of a shopping cart.” It does not mean that the invention is required to achieve perfect results.

### **C. Means-Plus-Function Claim**

35 U.S.C. § 112(f) allows a patentee to express a claim limitation “as a means for performing a specified function without the recital of structure, material, or acts in support thereof.”<sup>5</sup> This provision applies “only to purely functional limitations that do not provide the

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<sup>4</sup> Consider that in computing, optimizing data often means to rearrange or rewrite the data, software, or other components to improve the efficiency of retrieval and processing.

<sup>5</sup> 35 U.S.C. § 112(f) was formerly designated as 35 U.S.C. § 112, ¶ 6, but the language of the section is the same.

structure that performs the recited function.” Inventio AG v. Thyssenkrupp Elevator Ams. Corp., 649 F.3d 1350, 1356 (Fed. Cir. 2011) (citing Phillips, 415 F.3d at 1311). If a patentee has used means-plus function form, then the analysis under 35 U.S.C. § 112(f) is a two-step process: (1) the Court construes the function recited, and (2) determines what structures have been disclosed in the specification that correspond to the means for performing the identified function. Kemco Sales, Inc. v. Control Papers, Co., 208 F.3d 1352, 1361 (Fed. Cir. 2000). The patentee has a “duty to clearly link or associate structure with the claimed function.” Med. Instrumentation & Diagnostics Corp. v. Elekta AB, 344 F.3d 1205, 1211 (Fed. Cir. 2003) (citing Budde v. Harley-Davidson, Inc., 250 F.3d 1369, 1377 (Fed. Cir. 2001)). The use of means-plus-function form in claims is a convenience to the patentee; “the price that must be paid for use of that convenience is limitation of the claim to the means specified in the written description and equivalents thereof.” Id. As a matter of law, the scope of the claim covers the corresponding structure and its equivalents. 35 U.S.C. § 112(f). Mettler-Toledo, Inc. v. B-Tek Scales, LLC (B-Tek), 671 F.3d 1291, 1296 (Fed. Cir. 2012) (“Our case law is clear that a means-plus-function claim limitation is limited to the structures disclosed in the specification and equivalents”).<sup>6</sup>

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<sup>6</sup> The Court is not aware of any decision that has addressed whether “and equivalent structures” should be included in the court’s construction, or in a jury instruction. But courts appear to use “equivalent structures” language in the construction either where the parties are clearly going to argue at trial that equivalents are not contemplated by the contested patents, or where the use of the phrase will aid the jury in understanding the patent and its limits. see Am. Med. Sys. v. Laser Peripherals, LLC, 665 F. Supp. 2d 1025, 1030 (D. Minn. 2009); Ergotron, Inc. v. Rubbermaid Comm’l Prods., LLC, No. 10-2010, 2011 WL 2412655 at \*6 (D. Minn. June 10, 2011); Hysitron Inc. v. MTS Sys. Corp., No. 7-1533, 2009 WL 1151984 at 13 (D. Minn. April 28, 2009). Therefore, the Court will add the phrase only where it appears helpful to the analysis.

The parties seek construction of means-plus-function terms in Claim 18 of the '979 Patent, which recites:

A shopping cart retriever comprising:  
an electric motor;  
a drive system powered by the electric motor;  
and a controlling means for controlling power to the electric motor including  
a first power-limiting means for limiting power to the electric motor;  
a second power-limiting means for limiting power to the electric motor;  
a burst means for overriding the second power-limiting means.

'979 Patent 10:4-15. The parties agree that "controlling means" is in the means-plus-function format. The parties also agree, the function of the controlling means is to control the power to the electric motor. It is further agreed that for the three following elements, a first power-limiting means, a second power-limiting means, and a burst means, the function is limiting power to the electric motor.

**1. "Controlling means for controlling power to the electric motor" in Claim 18 of the '979 Patent**

For the term "controlling means for controlling power to the electric motor," the parties agree that the function of this phrase is "controlling power to the electric motor." Dane asserts that the corresponding structure is simply "a controller and equivalent structures." Gatekeeper asserts that this element corresponds to "a controller model CS 1108, CS1125, or CS1126 made by Control Solutions, Inc., or model PMA 90-1220 made by PML Flightlink, Ltd." as recited in the specification.

Having identified the function, the Court looks to the specification for the corresponding structure. The parties agree that the corresponding structure in the specification is at least "a controller." Beyond that, Dane's construction does not identify a corresponding structure that



performs the identified function. The specification teaches the controller may be “constructed in analog or digital form so as to provide an ability to limit the electric current or voltage and to provide an ability to set the burst limit and the selected limit.” ’979 Patent 6:42-51. Therefore, the structure for “controller means” is “a controller in analog or digital form so as to provide an ability to limit the electric current or voltage.” Gatekeeper argues that the controller means is limited further to the specific model controllers that the specification names as “exemplary controllers,” but these controllers are simply examples covered under “equivalents thereof.” Without the corresponding structure, naming the models does nothing to aid a jury in understanding the claim.

**a. “A first power-limiting means for limiting power to the electric motor” in Claim 18 of the ’979 Patent**

The parties agree that the function of “a first power-limiting means for limiting power to the electric motor” in Claim 18 of the ’979 Patent is to limit power to the electric motor. Dane asserts that the corresponding structure is simply “a controller implementing an internal limit and equivalent structures.” Gatekeeper asserts that the corresponding structure is “a controller implementing an internal limit that is the controller’s normal current limitation and that results when the controller self-limits its maximum power output to the electric motor through the controller’s temperature or current level sensing to prevent damage to the controller; the power output must change, at least slightly, in response to any change in the sensed condition.”

The specification teaches that the first power-limit’s corresponding structure is “a controller implementing an internal limit that self-limits its maximum power output to the electric motor through the controller’s temperature or current level sensing to prevent damage to

the controller.” See ’979 Patent 4:42-51. Gatekeeper argues that the “power output must change, at least slightly, in response to any change in the sensed condition,” but this is not established by the specification. Gatekeeper requests that its alternate definition for first power-limit be imported into the construction of the means-plus-function term. As discussed above, in Section III.B.3., the prosecution history does not change the construction of the term first power-limit; therefore, it does not change the construction of the structure.

**b. “A second power-limiting means for limiting power to the electric motor”  
in Claim 18 of the ’979 Patent**

The parties agree that the function of “a second power-limiting means for limiting power to the electric motor” in Claim 18 of the ’979 Patent is to limit power to the electric motor. Dane asserts that the corresponding structure is simply “a controller implementing a selectable limit less than the internal limit, and equivalent structures.” Gatekeeper asserts that this element is “a controller implementing a selectable limit less than the internal limit and the selectable limit are distinct power limits, which are co-existing; a single adjustable power limit cannot serve as both the first power-limiting means and the second-power limiting means.”

The specification teaches that the second power-limit’s corresponding structure is “a controller implementing a selectable limit less than the internal limit.” ’979 Patent 2:59-61, 3:19-25, 3:41-45, 4:48-58. Again, Gatekeeper’s proposed construction is not supported by the specification. Gatekeeper requests its alternate definition for second power-limit be imported into the construction of the means-plus-function term. As discussed above, in Section III.B.3., the prosecution history does not change the construction of the term second power-limit; therefore, it does not change the construction of the structure.

**c. “A burst means for overriding the second power-limiting means” in Claim 18 of the ’979 Patent**

The parties agree that the function of “a burst means for overriding the second power-limiting means” in Claim 18 of the ’979 Patent is to override the second power-limiting means. Dane asserts that the corresponding structure is simply “a controller implementing a burst mode, and equivalent structures.” Gatekeeper asserts that this element is “a controller implementing a burst mode that allows the controller’s maximum power output to exceed the selectable limit for a limited time before again becoming subject to the selectable limit.”

The specification teaches that the burst mode means corresponds to “a controller implementing a burst mode that allows the controller’s maximum power output to exceed the selectable limit for a limited time before again becoming subject to the selectable limit.” See ’979 Patent 2:61-64. Dane’s construction essentially repeats the claim language, and does not indicate the corresponding structure in the specification. Gatekeeper’s construction identifies an appropriate structure disclosed in the specification that corresponds to the means for performing the identified function. Therefore, the Court adopts Gatekeeper’s construction of “a burst means.”

**2. “Third power-limiting means for limiting the power to the electric motor” Claim 21 of the ’979 Patent**

Claim 21 of the ’979 Patent recites: “The retriever of claim 18, wherein the controlling means includes a third power limiting means for limiting the power to the electric motor, wherein the third power-limiting means limits a maximum power output of the controlling means to a level that is less than that allowed by the first power-limiting means and greater than that

allowed by the second power-limiting means.” The parties agree that the function of the third power-limiting means is “limiting power to the electric motor.” The parties also agree that the means’ corresponding structure is “a controller implementing the limit described in the remainder of this claim.” Dane argues that “and equivalent structures” should be added to the end. It is unclear how adding “and equivalent structures” would help a jury understand the structure and function of this claim; therefore, the Court declines to add it to the agreed upon construction.

#### IV. CONCLUSION

Based upon the foregoing, and all the files, records, and proceedings herein, **IT IS HEREBY ORDERED** that in interpreting the ’379 Patent, the ’836 Patent, and the ’979 Patent the disputed terms will be construed in accordance with this Order.

BY THE COURT:

s/Ann D. Montgomery  
ANN D. MONTGOMERY  
U.S. DISTRICT JUDGE

Dated: July 14, 2014.